2-Methyl-1,5-pentanediamine

Other names:	1,5-Pentanediamine, 2-methyl-
	1,5-diamino-2-methylpentane
	2-Methylpentamethylenediamine
	2-methyl-1,5-diaminopentane
	2-methylpentane-1,5-diamine
	Dytek A
	MPMD
	Methylpentamethylenediamine
Inchi:	InChI=1S/C6H16N2/c1-6(5-8)3-2-4-7/h6H,2-5,7-8H2,1H3
InchiKey:	JZUHIOJYCPIVLQ-UHFFFAOYSA-N
Formula:	C6H16N2
SMILES:	CC(CN)CCCN
Mol. weight [g/mol]:	116.20
CAS:	15520-10-2

Physical Properties

Property code	Value	Unit	Source
gf	130.10	kJ/mol	Joback Method
hf	-104.87	kJ/mol	Joback Method
hfus	18.17	kJ/mol	Joback Method
hvap	49.84	kJ/mol	Joback Method
log10ws	-0.96		Crippen Method
logp	0.320		Crippen Method
mcvol	115.360	ml/mol	McGowan Method
pc	3577.07	kPa	Joback Method
rinpol	897.00		NIST Webbook
tb	481.30	K	Joback Method
tc	678.51	K	Joback Method
tf	308.90	K	Joback Method
vc	0.423	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	330.86	J/mol×K	678.51	Joback Method
cpg	321.29	J/mol×K	645.64	Joback Method
cpg	311.21	J/mol×K	612.77	Joback Method
cpg	300.61	J/mol×K	579.90	Joback Method
cpg	289.47	J/mol×K	547.04	Joback Method
cpg	277.78	J/mol×K	514.17	Joback Method
cpg	265.50	J/mol×K	481.30	Joback Method
pvap	1.61	kPa	353.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.93	kPa	343.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	2.67	kPa	363.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.52	kPa	333.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures

pvap	0.27	kPa	323.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.14	kPa	313.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.07	kPa	303.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.03	kPa	293.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures
pvap	0.01	kPa	283.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures

pvap	4.00e-03	kPa	273.15	Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Phase equilibrium properties of binary mixtures containing 1,3-pentanediamine (or 1,5-diamino-2-methylpentane) and water at several temperatures:	https://www.doi.org/10.1016/j.jct.2014.12.008
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C15520102&Units=SI

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume